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SIMULATION IN READING.

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AN ATTEMPT TO IMPROVE THE RELIABILITY, VALIDITY, AND EFFICIENCY OF ALL READING INSTRUCTION BY MODIFYING CERTAIN DIMENSIONS OF TEACHER BEHAVIOR IS REPORTED. A SURVEY IN OREGON INDICATED THAT TO DETERMINE THE FUNCTIONAL READING LEVEL OF STUDENTS, 74 PERCENT OF THE TEACHERS USED GRADE EQUIVALENT SCORES FROM ACHIEVEMENT TESTS, 24 PERCENT USED INFORMATION FROM CUMULATIVE FOLDERS, AND 30 PER CENT USED COMBINATIONS. MATERIALS WERE DEVELOPED TO GIVE PROSPECTIVE TEACHERS AN OPPORTUNITY TO LEARN THE MARKING CODE OF THE INFORMAL READING INVENTORY, TO PRACTICE, AND TO EVALUATE THEIR SKILL. A SERIES OF SIMULATED INSTRUCTIONAL FILMS AND PRINTED MATERIALS WAS DEVISED. THE PROCESS EXPERIENCED BY THE TEACHERS IN THREE CLASS PERIODS IS DESCRIBED. ONE HUNDRED UNDERGRADUATE STUDENTS WERE STUDIED TO DETERMINE THE EFFICIENCY OF THE MATERIAL. THE RESULTS INDICATED THAT TEACHERS, AFTER VIEWING SIMULATED MATERIAL, WERE 92 PERCENT ACCURATE IN ASSESSING FUNCTIONAL READING LEVEL. AFTER REVISION OF THE MATERIAL, A SECOND STUDY WAS CONDUCTED WITH 50 SUBJECTS. THE RESULTS INDICATED 94 PERCENT ACCURACY. A DISCUSSION OF TRANSFER INTO ACTUAL CLASSROOM PRACTICE AND REFERENCES ARE INCLUDED. (BK)

SIMULATION IN READING

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Introduction

One of the more difficult and frustrating tasks in education is the accurate evaluation of reading instruction. The assessment of teaching effectiveness and programs of instruction is made difficult, among other reasons, because there are frequently large numbers of variables in the instructional setting which do not readily yield to controlled analysis. Reading specialists are only too familiar with studies in reading in which significant variables could not be controlled, thus rendering the findings less conclusive than had been anticipated by the researcher. Comparison studies, in which the efficiency or reliability of one set of materials or procedures is compared to another, have been particularly difficult to manage satisfactorily. During the last fifteen or

twenty years considerable time and much effort has been expended conducting comparative type research, and often it has been an experience in futility indeed.

In contrast to the foregoing, what we in Oregon have been attempting to do during the past three years is to improve the validity, reliability, and efficiency of all reading instruction by modifying certain dimensions of teacher behavior. We believe that by improving the classroom teacher's proficiency in certain crucial instructional skills, we can have a greater impact upon the teaching of reading than is possible in any other way.

Our primary endeavor was focused upon helping teachers achieve an acceptable degree of competency in solving the first instructional problem they face in the teaching of reading, i.e., the determination of each child's functional reading levels and the selection of reading materials at an appropriate instructional level. Teachers may utilize either basal readers or trade books; but they must, if optimum growth is to be achieved, carefully match each child's reading proficiency with books at his instructional level.

The foregoing instructional problem faced by teachers gives rise to at least two questions: (1) What means have teachers typically employed to make an assessment of children's functional reading levels? and, (2) Are the means employed satisfactory for the purpose?

In answer to the first question, it was learned by means of a brief survey of elementary teachers in Oregon, Washington, and Idaho that teachers typically utilize data from three sources in assessing a child's reading behavior for the purpose of determining his reading

level. One, 74 per cent of the teachers used the grade equivalent scores in reading obtained from achievement tests administered either the previous spring or the current school year. Two, 24 per cent relied upon statements in the cumulative folder placed there by the teacher of the previous year; and, three, 17 per cent utilized rather unsystematic observations of each child's reading performance. Only 30 per cent of the teachers used a combination of the foregoing. Interestingly enough, only first grade teachers stressed their own observations as a primary method of collecting data about the children. Perhaps this occurs because they have nowhere else to turn.

All three of the foregoing procedures for determining functional reading levels appear to have some serious flaws either in rationale or commission. First, we tend to believe that the findings of Killgallon (3), McCracken (4), Sipay (6), and others are accurate—that group standardized tests such as the Stanford Achievement or the California Achievement, to mention only two widely used examinations, overestimate a child's instructional reading level by one or more years. There is little question in our minds that, if standardized test scores are used as a basis for selecting a child's reading text, the pupil will be receiving instruction from reading materials which are too difficult for him.

Second, antecdotal records of a child's reading behavior placed in the cumulative record folder by the pupil's previous teacher may be questioned, as they are often badly outdated even when entered. Furthermore, there is serious doubt about the objectivity and accuracy of such records in many instances.

Third, there is evidence that many teachers do not have in mind a set of objective criteria for determining reading levels, nor have they been overwhelmingly accurate in the use of informal assessment procedures.

In 1962 Millsap (5) conducted a study to determine if teachers were aware of the fructration reading level among their pupils. Her population consisted of 123 teachers, grades one through six, 27 seventh and eighth grade teachers, 23 secondary teachers, 47 pre-service teachers, and other miscellaneous subjects.

Millsap administered two inventories to each member of her population. The first consisted of seven selections taken from a series of basal readers, primer through sixth grade. Errors the pupil had made in reading each selection were marked in the text. The subjects were asked to indicate their reaction to the appropriateness of the material for the child in question at each grade level by indicating whether they thought the material was too easy, about right, or too difficult. Inventory Two also consisted of seven selections taken from a basal reading series, but no errors were marked in the text and material. Instead, the errors occurred on a tape accompanying the text. Again, subjects were asked to react to the suitability of the material for the pupil in question at each grade level.

The 123 elementary school teachers were 70 per cent correct in their responses, the seventh and eighth grade teachers were 51 per cent correct, the secondary teachers were 43 per cent correct, and the pre-service teachers were only 42 per cent correct.

The foregoing studies provided ample evidence that the means

utilized by large numbers of teachers to assess each child's functional reading levels were either inappropriate or that their skill in the use of appropriate informal inventories was quite poor.

The findings by Killgallon (3) and others clearly demonstrate that group standardized tests tend to overestimate a child's instructional reading level. This tends to be true not only of group achievement tests, but true of group reading readiness tests as well. Gates (2:4) has recently made the point that these tests are superficial and inadequate.

Conversely, the validity of the informal reading inventory for identifying functional differences in children's reading abilities has been known for some time and in 1966 was reinforced again by Christenson (1). He found that certain types of errors were associated with different reading levels. For example, noun errors occur with a greater than expected frequency at the frustration level, whereas pronoun and conjunction errors occur more frequently than expected at the independent level.

The Informal Reading Inventory Instructional Process

As instructors of methods courses in reading and supervisors of student teachers, my colleagues and I had been aware for some time of the seeming inability of teachers to determine accurately children's functional reading levels. We felt that the most promising approach, since we could not change the standardized tests, was simply to improve prospective teachers' ability to use the informal reading inventory.

We were not, however, noticably successful in our initial attempts to teach the use of the informal reading inventory. We provided our students with a marking code and a set of criteria for evaluating children's reading behavior, we demonstrated the techniques, and we compelled our students to administer inventories to children in the schools. But our students did not learn to use the marking code well, as they had only limited opportunities to practice; the children we utilized in demonstrating the informal inventory did not function normally and presented atypical performances; and when we had our students administer informal reading inventories to children in the classrooms in which they were student teaching, we lacked control. The students administered the informal reading inventories, evaluated the children's performance, and selected instructional [illegible]; but we had no way of assessing the accuracy of the students' use of the inventory, as it was not possible to be present when all the inventories were administered.

We gradually became aware that a fresh approach would be necessary if we were to teach the effective use of the informal reading inventory to the large numbers of students typical of undergraduate reading methods classes. The problem was to develop realistic materials which would provide students the opportunity to:

1. Learn a marking code and the criteria of three functional reading levels: independent, instructional, and frustration.
2. Practice using the marking code and applying the criteria.
3. Evaluate their own skill in administering the informal reading inventory.

Furthermore, the materials and learning process should be subject to the control of the instructor in order that he would be able to

judge the students' progress in learning to administer the informal reading inventory.

The search for a technique which would meet the foregoing demands led to the development of a series of instructional films and printed materials described as the Informal Reading Inventory Instructional Program. The printed materials and films were programed in such a manner that students learned the essential elements of administering an informal reading inventory in a simulated teacher-pupil conference.

Briefly, the process a student experiences in three separate class periods is as follows:

1. During the first hour of instruction the students are provided with a manual prepared for their use. At this time the college instructor discusses with the class the background and rationale of the informal reading inventory, how it is administered, the criteria for determining functional reading levels, and the marking code. Students are instructed to study their manuals, learn the marking code, and familiarize themselves with the criteria used to determine reading levels. The student's manual also contains several reading selections, grades two through six, followed by a number of questions designed to check a child's vocabulary and literal comprehension of each selection. The students are instructed to read these selections and the questions which accompany them and to determine a satisfactory answer for each question.

The students are also asked to practice using the marking code by listening to three five-minute tapes of children reading materials at different levels. Answer keys are available so that students may check the accuracy of their responses.

2. During the second hour of instruction the students are shown a thirty-minute film of a child reading five different reading selections of increasing difficulty. The students' manuals contain exact duplicates of the selections read by the child in the film. As the students view the film, they use the marking code to record the child's reading errors--omissions, insertions, mispronunciations, and substitutions. The students also record the

number of incorrect answers the child on the film makes in response to the comprehension questions asked by the teacher on the film.

The filming was done in such a manner that the viewer gains the impression that he is sitting in the teacher's chair, across the corner of a desk from the child. The teacher in the film is seen only at the beginning and ending of the sequence, and it is his voice that asks the comprehension questions. Every effort was made to place the viewer in the teacher's place to heighten the impression that the viewer is in fact administering an informal reading inventory to the child.

3. Following the viewing of the film, the students are asked to compute the percentage of correct word recognition responses and the percentage of correct comprehension answers to each selection read. They then determine the child's functional reading level for each of the selections read.

4. During the third class period the college instructor discusses each filmed reading selection with the students, the errors the child made, and the correct evaluation of the child's reading performance. The student thus receives almost immediate reinforcement for his responses.

Also during the third hour the students view the film again. They are instructed to try to correct any errors they made during the first viewing. They are also instructed to pay particular attention to important behavior they might have ignored previously--the child's phrasing errors, signs of tension, etc.

5. The students are asked to identify an appropriate basal reading text for the child. Again the college instructor discusses with the students their responses and corrects any errors. (7:573-574)

The foregoing process which simulates the administration of an informal reading inventory has been in use on several campuses for the past eighteen months. Over 500 undergraduate students have learned to administer the informal reading inventory through simulation. In addition, over 600 experienced teachers have been taught to use the informal reading inventory through in-service programs.

In 1965 a study of 100 undergraduate students was undertaken to determine the efficiency of the simulation package. The students were taught to administer the informal reading inventory through the use of simulation only. It was learned that they were able to identify correctly the independent, instructional, and frustration reading levels of children on a simulation test film with 92 per cent accuracy. The manuals and films were subsequently modified, and a second study of fifty undergraduate students was undertaken during the spring and summer of 1966. These students were 94 per cent accurate in their ability to identify correctly a child's functional reading level.

In still another study of fifty experienced teachers who were taught the use of the informal reading inventory through simulation, it was found that they were 96 per cent accurate in their ability to identify correctly a child's functional reading level.

The transfer of learning from the simulated class into actual classroom practice was evaluated in October of 1966. During the summer of 1966 fifty experienced teachers were taught to administer the informal reading inventory using the simulation instructional process. Of these, nine had previous knowledge of the informal reading inventory and had used it in their classrooms. However, after learning to use the informal reading inventory during the summer, forty-two were utilizing it in their classes in August and September. Only eight first grade teachers had not had an opportunity to use the inventory in class; but, of these, four had helped other teachers assess the reading levels of the children in their classrooms. Further, of the fifty teachers, ten had presented the informal

reading inventory to the other teachers in their buildings or had helped other teachers examine their classes. Thus, with experienced teachers, there appears to be from 84 to 92 per cent transfer into the classroom.

The transfer into classroom practice by inexperienced teachers, although not as high as with experienced teachers, is encouraging. A follow-up study of fifty students during their first year of teaching indicates that 67 per cent used the inventory. This compares with the 17 per cent found in the survey of Oregon, Washington, and Idaho teachers quoted earlier.

Our experience with simulation has reinforced our belief that one of the most crucial problems faced by all teachers is that of establishing in student's minds clear understandings of the dimensions of the process being taught. If students and instructors have in mind referents which are identical, or nearly so, and these referents are identically labeled by students and the instructor, effective instruction may take place. If, on the other hand, students have no referents, or if the students' referents are greatly different from the instructor's, many words may be exchanged but understanding is clouded or lost.

As Professor Wallen has stated:

> Instructional simulation is a powerful tool for developing the referential resources of reading teachers. By showing student teachers examples of the specific behaviors of children which characterize different reading levels and different word-attack skills in a setting which exaggerates these characteristics and makes them more obvious, student teachers can develop referential categories for the different behaviors. The student teacher learns what the term "instructional reading level" means by observing a child reading materials at different levels of difficulty and applying a transcription code to record the

errors, The label, instructional level, refers to that behavior exhibited by the child on film at a specified time. Once he has learned to identify the instructional reading level of each child, the teacher can then answer the question: 'Is the text too hard for Johnny?' (8:4)

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